

Newburyport Dec 5. '92

Mr Geo E. Davenport  
Dear Sir

I wrote Professor Eaton  
a while ago that I had a plant  
of a hybrid fern (I claim it to be  
a hybrid between *A. marginal* and  
*A. cristatum*) in my garden of  
which I had previously sent him  
specimen fronds and that he  
could have it to examine if  
he wished. He informs me that  
he has sent the specimens to you  
for examination and gave me  
your address. I make the same  
offer to you if you would like  
it and I can manage to  
lift it as it is probably frozen

in. I have found this fern in  
several places

I would like also to know if  
be included in the friends sent  
an odd form of *A. Thelypteris*  
(*A. novaboracense*?)

Yours truly

Raynal Dodge

Newburyport

Mass

H  
Newburyport 8-7. '93

Mr Davenport.

Dear Sir;

Replying to yours of today  
I would state that Saturday  
the 12<sup>th</sup> would be entirely agree-  
able to me as a day to make an  
excursion in quest of my hybrid  
It will be necessary however  
to make a little change in  
your programme.

I have never found but five  
plants outside of Boxford

and those I have taken up  
I have found in Boxford  
some fifteen or twenty of  
them in fact I found nine  
at Crooked Pond last  
week taking five and leav-  
ing four and I think If  
I should go there for that  
express purpose that I could  
find quite a number

So then if you take the 12.15  
train on the western division  
for Topsfield, I will take the  
11 from Newburyport for  
the same place and await  
your coming at Topsfield  
depot

It will then be necessary  
to hire a team or a team  
and a driver at Topsfield  
and drive to Crooked Pond  
three miles.

Returning a train runs  
through Topsfield for  
Boston about 6.15

Yours truly

Raynal Dodge



Newburyport 9/17 '93

Friend Davenport.

I have been over into Seabrook woods to day. I spent from 8 this morning until dark looking up the odd form of *Nox-Thelypteris*? And by the way. I answered one of your questions wrongly last Sunday when you asked me where I first noticed this fern about 12 years ago. I should have said in Seabrook Woods instead of Salisbury. I have a frond yet which I collected at that time.

I went over with the determination to collect all the intermediate

forms I could find but curiously enough I failed to find any. Seabrook woods is a fine locality for this fern and perhaps we would have been justified in trying to get there last Sunday, and I should have attempted it if Dr. Noyes had not been anxious that we should visit his locality. I went first to the locality where I first noticed it but the woods have been cut off in that particular place within a few years leaving the fern still growing there in a wet sunny place. Now you are well aware that the natural conditions of this fern are wet and shade. I consequently I found that it put on here a quite different appearance.

In fact at first sight the fertile fronds reminded me quite strongly of those of *Thelypteris* but on further investigation I found them to be very different from the *Thelypteris* which was growing amongst it.

1<sup>st</sup> Because although the margins of the pinnae were somewhat reflexed in some cases considerably so yet the main difference was that all the pinnae were unduplicate both in the sterile and fertile fronds giving the sterile fronds much the appearance of *Asplenium Filix foemina* when growing in the sun. Now the pinnae of *Thelypteris* were perfectly flat in both sterile and fertile

fronds the fertile fronds merely having the edges of the pinnules turned over in those pinnules which were fruitful.

2 The lowest one or two pair on both fronds were reflexed, elliptic lanceolate and much shorter than the others, whilst in *Thelypteris* they were all in the same plane lanceolate and about the same length as the others.

3<sup>d</sup>. There was a great difference in color. The fronds of this fern are dark green, those of *Thelypteris* are light bluish green. Color not reliable  
9.22.3

4<sup>th</sup>. In larger size of the indusia which were however not quite as large as when the fern grows under natural conditions.

I think too that the new fern has more sori but I have

not yet counted them under the lens.

5. In the greater number of fertile fronds. Whilst there are about as many fertile as sterile fronds in the new fern in

*Thelypteris* there are many more sterile than fertile ones

6 I did not find a single case in the *Thelypteris* of a sterile frond being partly fertile whilst in the case of the new fern there were fronds with a few fruit dots on very many of the plants. The sterile and fertile fronds of the new fern looked much alike, but the two fronds of *Thelypteris* were quite different from each other

7<sup>th</sup>. A difference in the time of fruit maturity I should think that *Thelypteris* was 10 or 12 days ahead of the other.

But it is getting late and as I have more to write you you may expect another letter in few days. I spent several hours making these observations going carefully over quite a piece of ground and failed to find any fronds which did not satisfy these conditions and concluded that whatever this fern is it did not there in a favorable situation run into *Thelypteris*

R. D.

Newburyport 9/22 '93

My Friend Davenport: No further discuss the points of difference between the odd fern and A. Thelypteris both growing ~~in the~~ exposed to the sun.

8<sup>th</sup> The veins in Thelypteris were nearly all forked in the other nearly all simple

9<sup>th</sup> Spores of the odd fern are light brown of Thelypteris nearly black quite so in masses (I send slide enclosed in package by express. I slide has Thelypteris spores in one half the cell and spores of the other fern in the other half)

10<sup>th</sup> A. Thelypteris has more fruit dots to each pinna. Taking the

pinnae about in the middle of the fern and the pinnales about in the center of the pinnae in both cases: where *Thelypteris* has 6 or 7 fruit dots the odd fern has only 4 or 5

11 The fronds of *Thelypteris* are thicker. I have been measuring quite a number of fronds of each fern with a micrometer calliper measuring the lower pinnae of the sterile fronds *Thelypteris* measures about  $5\frac{1}{2}$  thousandths. The odd one  $4\frac{1}{2}$  thousandths and *Nove* about 4 one thousandths which is just about the thickness of the paper which the Boston Globe is printed on. Now .001 of inch being equal to .025 millimetres



$5\frac{1}{2}$  thousandths or .0055 = .1375 mm

$4\frac{1}{2}$  " " .0045 = .1125 mm

4 " " .004 = .1 mm

I think these dimensions are approximately correct.

Not thinking to obtain roots of the two ferns I am unable to compare them.

In the bundle I send you No 1 is that variety of *Asplenium Filix-foemina* which grows exposed to the sun in dry places and which I have been in the habit of calling variety *rhaeticum* and No 2 ~~is~~ are specimens of the odd fern growing in the sun with the pinnae folded together. I think that the resemblance between

them is very striking.

No 3 specimen when I first obtained it was similar to No 2 but taking it out from my portfolio Tuesday evening where it had laid since Sunday and placing it on the table I noticed ~~it~~ in a minute or two that the pinnae were unfolding in a curious way and in a short time they were most of them laying flat at which I was much surprised. When I found that it worked in that way I kept the other one under pressure. I do not know in what condition the other one (No 2) may be in when it reaches

you but when I send it all the  
pinnae but the upper ones are  
conduplicate.

Perhaps this one may unfold  
also if relieved from pressure and  
exposed to the atmosphere of  
a warm room.

No 4 is specimen of *Thelypteris*  
growing beside Nos 2 & 3 and  
No 5 is the New fern growing  
a few rods further on in the  
shade of trees.

Probably other distinctions between  
the two ferns might be made  
but I think that I have said  
enough to show that the two  
ferns are not allied except  
in the possible case of hybridity

As relates to any differences between this fern and *Thelypteris* when both are growing in wet shades although as of course you are well aware the new form grows most thriftily in the shade yet I could find no fertile fronds of *Thelypteris* in that situation. Abundance of sterile fronds but no fertile ones.

It only remains then to discuss the relations which this fern bears to *A. Novboracense* which perhaps I may do at some future time if you care to listen. My object in writing to you in this way is not to interfere with your work at all but merely because I thought that I had ascertained some points and wanted find an appreciative listener.

And now I want to speak to you on another subject. Do you remember in the letter from Prof. Eaton which I showed you that he said he had suspicions that there was a hybrid between *cristatum* and *Goldieanum*. Well, last August when I ~~when~~<sup>went</sup> to Mt. Holy. I was obliged to wait 4 or 5 hours for the train at Millers Falls. So I struck off into one of the swamps there and in looking about among the *Goldieanums* and *cristatums* I think that I found that hybrid. The leaves were not in ~~very~~ very good condition but Dr. Noyes was so taken up with them

that I let him have them  
The roots however I brought home  
and if they come to any thing  
next year I will send you the  
fronds. ~~I~~ Perhaps if Prof.  
Eaton is not going to investi-  
gate the subject you might get  
help from him if you care to.

Yours truly

R. D.

Newburyport 11/13 '93

My Dear Mr Lavenport.

Shortly after my last communication was made to you, I paid a second visit to Seabrook woods, obtaining considerable material and making some reflections. I have been lately looking over the material and adding somewhat to the reflections and I propose now to give you the results so far as they may relate to the fern which I have been calling the odd form.

I took a somewhat different direction this time, going to Folly Mill Woods (See Whittier's "My Playmate" verses '98/18) and found that there this fern is very abun-

dant. Impact of the three forms  
this seems to be the most common  
I found there a large space  
where the woods had been cut off  
in what had evidently been a  
wet place but the heat of the sun  
had dried it up and here the odd  
fern was growing in abundance  
together with *thelypteris* & *Nove*.  
I notice however that this fern  
only comes to perfection in very  
wet shady places in fact it seems  
as if it were necessary that for a  
good part of the year its roots should  
be in the water.

*Thelypteris* also needs water but also  
sun. I notice that when growing  
in complete shade *thelypteris* runs  
pretty much to sterile fronds.  
As regards *Nove* although it does  
very well in shade an wet still  
I find it growing in quite

dry situations.

I till I could find these ferns grow-  
ing pretty near each other.

Now I found this fern as before  
said growing in the sun in masses  
with the sterile fronds pretty much  
dried up and blown away but  
the fertile fronds were still stand-  
ing with their pinnae nearly  
all conduplicate like specimen  
I sent you before

At that time I sent you a  
specimen of odd form with  
conduplicate pinnae and  
one of *Thelypteris* with pinnules  
having only revolute margins both  
growing under the same condi-  
tions.

Now I send you similar speci-



mens of the odd one to gether with one of Nove growing in the sun and collected at same time and place.

You see that the Nove is scarcely affected by its exposure. The odd fern evidently feels the ~~off~~ effects of the sun's light and heat to a much greater extent than Nove.

Going further into the woods and selecting a place where the three ferns grew near each other I dug up a lot of their rootstocks Nove and the odd one were here growing about ten feet apart with thelypteris very near and as far as I could judge growing in the same kind of soil I send you specimens which you can compare with yours

The thelypteris roots are shiny black with black root hairs and send out long runners.

The rootstocks of Nove are brown with brown root hairs and shorter runners.

The rootstocks of the odd one are brown with very short runners. Neither does the main stalk lengthen much from year to year and the bases of the former years stalks seem very persistent.

I went down to Pettingells Swamp one afternoon since I was in Seabrook, and to a spot where I knew that some plants of this odd fern grew, and verified these results, as I thought completely.

I noticed in places where the odd fern grew in clumps so that the fronds supported each other that the normal position of the two lower pinnae was deflexed and brought round just at right angles to the rachis; but when the fronds were declined the upper angle between the rachis and pinnae was increased just enough to keep the pinnae horizontal in both planes, which I take it is caused by the action of light. I have noticed the same occurrence in some other ferns, in *Osmonda cinnamomea* for instance.

Another thing I noticed was that the dark color of the *thelypteris* root extended up into the rachis so that with-

out looking at any other part of the fronds, I could distinguish *thelypteris* from the odd one by this mark alone.

I notice in looking at the ~~odd~~ sori of *Nove*, *thelypteris* & the odd one with a power of 60 that the indusia of *thelypteris* are minute and smooth if *Nove* minute with glandular edges and of the odd one much larger and glandular nearly all over. The sporangia also larger and longer stalked.

Spores in odd one much brighter colored than in *Nove* whilst *Nove* spores are lighter than those of *Thelypteris*.

Another point of difference between *thelypteris* and the odd one is that whilst the pinnae of *Thelypteris* are often considerably recurved those of the odd one are at most not recurved more than those of *Nove*.

I have been looking over fronds of the odd fern and those of *Nove*, after forked veins.

Although I find some forked veins in fronds of *Nove* especially in the basal lobes yet in fronds of the odd one I have not been able to find as many as one. Perhaps you may have better luck.

Another point of resemblance between the odd fern and *Nove* is that both have the lowermost pinnae deflexed although in ordinary *Nove* these pinnae

are so small that the fact does not attract much attention.

I have never noticed any thing of this sort in *thelypteris*.

In looking over great numbers of these odd fronds in Seabrook that day I must confess that I found a few which I was uncertain where to place.

These fronds would have perhaps two pairs of lower pinnae both deflexed and both pairs would be elliptic lanceolate but not as much so as in the case of the odd form the lower pairs being sometimes considerably smaller than the upper ones and sometimes not.

The fruit dots too would be intermediate in size between those of *Nove* and those of the odd one

We might of course consider them to be hybrids. No doubt they were hybrids if hybrid is the right word, but it seems to me in the whole that the facts which I have given warrant the belief that this fern is not *thelypteris* and not an intermediate form but that with the exception of a general resemblance in outline to *thelypteris* (which although it amounts <sup>to</sup> but little has deceived our predecessors) it is really *Nove intensified*. The elliptical lanceolate form of the pinnal one half or two thirds up the rachis was very marked in the specimens

which I collected in Geabrook and I still think that the loss of the lower most pinnal<sup>the</sup> in the *Nove* fronds and ~~there~~ consequent change in outline of the ~~fronds~~ has caused ~~the~~ <sup>from</sup> nearly all the pinnae of the variety to take on <sup>an</sup> elliptical lanceolate shape or at all events has made that shape more pronounced.

I would remark that although the margins of the odd fern are somewhat revolute in cases where it grows exposed to the sun yet I notice the same condition and to the same extent in some fronds of *Nove*.

If you should come to agree in the main with my con-

clusions, Professor Eaton's definition of *Nove* which we have been so long accustomed to. - lanceolate in outline - tapering both ways from the middle - lowest two or more pairs gradually shorter - indusium minute - margin glanduliferous - will need revision.

When I made my last visit to Seabrook I went by way of Aberrimac to look up a plant of *marginale* + *cristatum* which I knew of and found two more one of them however being in infancy. I secured the roots stalks and I want you to see the fronds from the small one. I gathered some small

fronds of *marginale* and some of *cristatum* of about the same size and would like to have you see the three beside each other.

I also pulled up a good many *marginale* and *cristatum* roots and brought home quite a number together with their fronds but although the hybrid was our first subject still my attention has lately for some reason been directed more to this odd form.

But as this will probably be my last communication on that subject until I hear some thing explicit from you. I intend too look over my hybrid material in the near future and I was thinking that if

your views and mine should coincide that perhaps it would be as well to publish an account of this odd fern, first and to let the other one rest for awhile.

There lives and flourishes in our city a german druggist Karl Castelnun by name a man of considerable scientific attainments especially in the lines of chemistry and botany I was speaking to him about this hybrid fern and he said that he should like to see specimens

I wanted that he should also have specimens of *marginale* and *cristatum* for compar-

ison and so leaving the shop at 4 o'clock on a Saturday after noon about three weeks ago I took the cars at the shop door and rode about two miles to the further end of the city and went to a spot where I ~~then~~ knew that *marginale* grows.

And in looking after those *marginale* friends, I found another hybrid of whose existence I never suspected

The boy who went with us that day to Seabrook recognized it at a glance and said he "That is a Dick"

When we get these two cases from the docket I intend to send you specimens and let you tell what they are.

As I view the case now it is a very interesting one of hybridity. I found only one plant but I brought the rootstock home with me and planted it after taking off the fronds.

I also want you to see my specimen of *Boottii* and *spinulosum* growing on the same rootstock which I think I have somewhere in my file.

I believe that I did not tell you that I had been over to Chebacco swamp since I saw you and looked about for the odd form but although the location seemed to be a good one and *Nove* and *thelypteris* plenty yet I could

not find a scrid of the odd one. Neither have I been able to find it in Boxford or Ipswich.

Raynal Dodge.

X  
Newburyport 11-5-'94

Mr George C. Davenport.  
My Dear Sir: -

your letter of  
Oct 30 received and read with pleasure.

I have come to same conclusions  
as you regarding the fern that I  
have called the odd None ~~through~~  
through my examinations of the  
fern during the present year  
and that the few and in most  
situations very few cases of  
running together are the result  
of intermixing.

Your name for it is good but  
when I considered it a variety  
I used to think of umbrohumidalis



As regards the hybrid, I am well aware that in the cases of *Carices* *Salices* and *Potamogetons* your method, of indication has been quite the proper thing of late but have not known of its adoption in the ferns

Have any of the ferns of North America been indicated in this way.

Does any one write *Campitosorus rhizophyllus* x *Asplenium ebenense* for *A. ebenoides* or *Asplenium trichomanes* x *Asplenium ebenense* for *A. parvulum*

Now this hybrid occupies the same position as regards *cristatum* and *marginale* that *A. Bootii* does to *cristatum* and *spinulosum* but is *Bootii* anywhere described as *A. cristatum* x *spinulosum* ~~marginale~~

When Prof Eator named *A. Bradlyi* did he not know as well as he ~~did~~ does at present that it was a hybrid between *rutamuraria* and *mentanum*.

If the manner of indication which you mention is to be adopted why has not it been done with the ferns which I have mentioned whose character has long been known.

They have all received a distinctive name and why not the same in this case

I have also found *A. simulatum* in several other places this season two of them being well known to you viz: Cedar Pond in Wenham and Chebacco Pond in Essex but the stations were small and I could not find it at all in

the neighborhood of Warren R.I.,  
although I looked in several likely  
places.

Your notes on the Mexican ferns  
received.

I would like to have 25 Extras  
of your description of the New  
ferns and am willing to pay  
whatever charges are made

Raynal Dodge

P. G.

3

Let me give you a few thoughts  
which have passed through my mind  
since writing my note

I wonder if this fern you have  
called *Dryopteris simulata* is not  
the North American representative  
of the European *Notholaena censis*  
I wonder if they are not both descended  
from the same stock and if  
they will not get further apart  
as time rolls by

I wonder how far north the  
typical *Notholaena* grows. Not far  
I should judge for it is late in  
fruiting

I wonder if the typical *Notholaena*  
is not an introduced plant  
here or rather an adventitious  
one.

I wonder if our beeches and  
birches and ~~other~~ many others

which have been given distinctive names differ from the European forms more than this *simulata* does from none.

I wonder if the illustration of *Aspidium thelypteris* which is given in Anna Pratt's Ferns and Flowering plants of Great Britain is any thing like the European form of the plant. Two small pinnules for the lowermost ones.

If that is so our *thelypteris* is not like theirs.

And finally I wonder where I can get specimens of *Asplenium ebenoides* and *Botrychium lunaria* of New England growth. Underwoods in his Native ferns and their allies give them both from the New England states.

Dodge

X

Newburyport 1-19-95

Mr George E. Larnport

My Dear Sir:—

Yer separates received and my  
only excuse for not acknowledging  
their receipt is that I received a few  
days previously some separates from  
the Gazette office and so when yours  
arrived it did not so much attract  
my attention although at the time  
I had given mine all away  
I thank you for the same

The only criticisms I have to  
offer on the article are that you  
give Seabrook as being in ~~Mass~~  
Massachusetts instead of New  
Hampshire and that you take  
the grounds that hybridism

in ferns is a rare occurrence in  
nature. where as I think it to be quite  
common

I have accumulated quite a fund  
of evidence on this point some  
of which I think is going to surprise  
you

I wish you would bear in mind that  
I would like to obtain *A. ebenoides*  
and *B. lunaria* If I had these  
and *Selaginella selaginoides*  
and *Equisetum littorale* I should  
have a complete collection of  
the vascular cryptogams  
of New England ninety eight  
species and varieties

Underwood in his "Ferns and  
Fern allies" gives both *ebenoides*  
and *lunaria* from Connecticut  
but I do not know his authority

Much obliged for the credit  
you give me in the article in  
the Gazette.

Yours truly

Raynal Lodge

Newburyport 6/28/95<sup>7</sup>

Mr George C. Davenport  
Needford  
Mass.

My Dear Sir, your note of March 30  
was duly received and I feel the  
force of your remarks regarding  
the disinclination of Mr Meehan  
and other botanists to admit the  
hybridity of ferns but I know that  
it is a fact of very common occur-  
ence.

Mr Meehan in his Native Flowers  
and Ferns of the United States  
Series second. Vol 1<sup>st</sup> page 113  
gives an illustration of *Asplenium*  
*clavipes* and also an account  
of the discovery of the same



and a history of Mr Scott's attempts  
to attract the attention of botanists  
to the plant in which it seems  
he was for a long time unsuccessful  
He then goes on to say: but I quote  
Mr Meehan's own words

"This little bit of history has its  
valuable lesson. It teaches the student  
to search carefully for facts and  
when he himself is sure of the facts  
not to be too easily disheartened be-  
cause others do not at once see  
things as he does"

To be sure Mr Meehan has only half  
learned ~~the~~ the lesson which he him-  
self gives out for he thinks *A. elae-*  
*noides* to be a species and gives  
his reasons for so doing but his  
philosophy is good

By the way it may benefit you  
to have a look at ~~the illustration~~  
in the volume of which I am  
speaking

I think you will see there the

lopsided dont know what to do 3  
with itself look which is seen in  
so many plants of *A. cris. marg.*  
I have been very this season and  
have not had as much opportunity  
as usual to make excursions but  
still I have been about some and  
have kept my eyes open and  
have received a number of good  
specimens by exchange  
I think now that I can <sup>easily</sup> distin-  
guish the *Boottii* which is formed  
from *cristatum* with typical  
*spinulosum* and the one ~~one~~ which  
is formed from *cristatum* with  
*intermedium* and I have  
got possession of all probable hybrids  
in the genus *Aspidium* which  
grow in the Eastern states except-  
ing the one which is formed from  
*glaberrimum* and *marginalis*  
which I have never yet seen  
I had some friends sent me this  
spring by a lady in New York  
state asking me what I supposed

they were I took the friends just as I received them and showed them to the boy who accompanied us over to Seabrook woods. I asked him to name them and he said that is a Dick Goldie *anemospinosum* which was the conclusion to which I had come you probably don't take much stock in what I have written but in my investigations into hybrids I have run across some facts which have a bearing on a published opinion of yours

Why do not *A. spinulosum* typical and *A. spin. intermedium* mix together more frequently if they are of the same species They do mix but not as commonly as *cristatum* with either

How is it that *intermedium* forms a *dilatatum* variety just as typical *spinulosum* does. I had never seen genuine *dilatatum* until last autumn when I discov-

ered it in Kensington N.H. and I  
was much surprised at its appear-  
ance. Can send you a specimens  
illustrating what I mean if you  
would like them

What is intermedium interme-  
diate between. It surely is not  
intermediate between spinulosum  
typical and dilatatum. It seems  
rather to me to more parallel  
with it

Is it not likely that spinulosum  
is an introduced form whilst  
intermedium is a form that  
has been thoroughly American-  
ized

I ~~stuck~~ a patch of *B. matricariae*  
folium last week that would  
do your eyes good. It was a bit  
late for good fruit but the  
size of the patch was a wonder  
to me. It was about two rods  
wide and 30 rods long and  
the plants were so numerous  
a nearly all over it that it

was impossible to step without crush-  
ing from two to a dozen of them.  
Some of the plants were fifteen  
inches high and they would have  
been in full fruit I should think  
about June 15

The same day I discovered  
another lot of *B. trychium*  
growing in sphagnum-amongst  
this tall *Clusia sensilis*  
The plants were all about 2 1/2  
inches high not mature very  
simple in structure having  
about four sporangia on  
each side of the fertile part  
whilst the sterile part was  
uniformly three lobed with  
~~the~~ its tip bending down over  
the fertile ~~part~~ which was not  
reflexed According to your  
rules it seems to have been  
*B. lanceolatum*. but it seems  
to me to be a curious kind

I have raised Clarence Loun  
in New York and Mr Adam in  
Guaman Ct and they have both  
promised me to look for  
*Asplenium cheuoides* but I don't  
suppose that I shall get any-  
thing out of it

Raynal Dodge

1  
X  
Newburyport Mass 3/26/96

Dear Mr. Tavenport:-

your note  
of Aug 13, 1895 was duly received:  
also recently and except nomenclature from the B. G.  
I judge from your remarks  
that you have about given up  
the idea that *A. spinulosa* inter-  
media is a distinct species but if  
you have I haven't. This de-  
tad form of intermedia is some-  
thing more than a mere varia-  
tion. I could show you two  
hundred plants growing  
together and every plant would

2

have dilated ~~pinnules~~ some of the  
pinnules being 4 and even five  
inches long. I believe that most  
of the variations come from mixing  
with typical spinulosum - which is  
not very usual. I can't understand  
how it is ~~that~~ that all our tall  
and nearly all of our native flower-  
ing plants are distinct from  
the European sorts when we have  
so many of the *Fidicinia* common  
to both continents. I suspect that  
some of these things have been  
planted unknowingly.

Please give me further information  
about this book you speak of, viz.  
"Fishes fifty years in fern growing"

I have not been following up  
my investigations on the *Aspidium*  
hybrids but have not given the  
subject up at all

The fact is, last season I started  
in collecting the Isoetes



3

If you see the "Linnaean fern  
bulletin" you are probably aware  
that it is intended in the July  
number to have a "symposium"  
on *L. simulata*. (They are determined  
to call it *Eryopteris*) Now the  
editor of the publication has  
written to me asking me to  
contribute. He also writes that  
if he could get a good drawing  
he would give an illustration  
of the plant. It occurred to me  
that you wrote something about  
a drawing of this plant which  
you at one time was having  
prepared and I thought that  
I would consult you before  
replying to him. As the number  
of the bulletin is not to be published  
until July, perhaps a photograph  
of plant taken say June 10 would  
answer the purpose.

4

and before the ponds froze up  
I managed to get about two-  
thousand plant and a friend  
whom I interested in the subject  
collected about twice as many  
more. He moreover having  
much spare time at his disposal  
has corresponded and received  
plants from about every one  
in the country - now being who  
has investigated these plants  
and I think that we will  
shed a little light on this sub-  
ject before long.

I intend to pay more attention  
to the *Aspidium* this season  
We have discovered a new  
species of *Isotria* at Trichling  
Falls about a dozen miles from  
this place & and I had intended  
to have published an account  
of it before this time. It is a  
very striking species

Do you include the fern allies  
in your collection - at Horticultu-  
ral Hall. I send you ~~an~~ check  
list including the N. A. species in  
which I have marked those which  
I may be expected to furnish you  
if you want any of them.

I am going up to see that  
"dried garden" of yours. Perhaps  
I may have some plants  
of even the ordinary species  
which would be an addition  
to your collection.

I intend also to look over  
some of the ponds in your  
neighborhood this season  
after "Lullworts" and especially  
I want to find that *I. lacustris*  
which is reported from Fresh  
pond.

Yours  
Raynal Dodge

X

Newburyport 5/25/96

Friend Davenport:-

I have got a nut to crack and a thick shelled one. I am probably to write for to late a list of the Vascular Cryptogams of New England arranged in the order of their fruiting said list to be complete and including all the important varieties. The Manual as I long ago found is not reliable in this respect being very indefinite and often at fault.

Now this pamphlet possibly will have considerable circulation

in this section of the country and the question arises as to what I am to call the plaguey things. I tell Mr Clute that if I adopt Underwoods nomenclature you will feel like giving me a thrashing the next time you see me. I have been thinking that perhaps I could adopt an intermediate course by giving both names in cases where required. What do you think about this.

At any rate I mean to include *A. crisp margin.* in the list

No I never sent Mr Underwood any specimens neither did I ever correspond with him on the subject but I did last summer inquire from Mr Clute why he had omitted

the hybrid fern from his list, to which he replied that it was because Mr. Underwood had decided that it had better not be included, and I let it go at that.

Yes, I should much like to go ~~off~~ to Bedford and spend Sunday with you and will make arrangements with you in a couple of weeks.

In my notes on *A. simulatum* which I have written for the Bulletin I give a short account of my sending the first specimens to Prof. Eaton and with them friends of the hybrid and say that "he decided that they were undoubtedly friends of a hybrid between *A. cristatum* and *A. marginale* and advised me to publish a description of the plant."

4

I think that I showed you  
the original letter when we were  
sitting in Crooked Pond land.  
& late by the way is to make the  
drawing for A. simulatum him-  
self. I am to send him specimens  
for the purpose from my her-  
barium. I wish that he had  
fresh plants to work from  
as I should like to have him  
see the retrose position of the  
lower pinnae but simulatum  
at present is represented in  
this section by little green  
balls on stems three or four  
inches long whilst *Nere*  
and *Thelypteris* growing  
within a few feet of it are  
about a foot high. I went  
and had a look Saturday  
afternoon

I will send you plants of  
*Isaetes Eatonii* when I get  
more but my stock at present

is quite limited and the locality  
Trickling Falls New Hamp-  
shire is nearly inaccessible from  
these parts. I expect however  
next July to make a trip up  
there and will be sure to  
remember you. I forget  
whether I told you that  
I have named it for Mr.  
Abraham A. Eaton of Leabrook  
N. H. who first attracted  
my attention to it.

I do not want you to think  
that when I offered to give  
you specimens of fern allies  
for your herbarium that  
I meant it as a hint for  
you to give me ferns for  
that was furthest from  
my mind at the time

Raynal Dodge



~~9 Consider Mr. Dring's plants to be  
F. angustifolia, and the difference  
is no way different from specimens  
previously collected and recorded.~~

+ Newburyport Aug. 1896

Friend Tarenport,

I send by same

mail as this plants of the new  
Lullwort. Thus far we have  
only found it on the "Flats"  
at Ponon Station East Kingston  
N. H. where it grows in considerable  
abundance and is probably to  
be found in similar situations.  
These flats are a level piece of  
fresh water marsh as far as I  
have explored should say it  
was about  $1\frac{1}{2}$  miles long and  
a half mile wide with Ponon  
river running along near the  
middle of it.

The ~~other~~ species of *Isoetes* growing there are *echinaspora Braunii*, *echinaspora Bertii Engelmannii*, *riparia* and this one besides another which I have not as yet sufficiently studied.

This species (*Eatonii* which I call after Aln Alcock A. Eaton of Geabrook N. H. who first noticed it) is found in ~~the~~ situations which are covered with water from November until about the middle of May during which time it grows these long leaves usually about 18 inches sometimes 24 inches and in one instance 28 inches long. As the water recedes the long leaves being left exposed to the air and sun, die away and are succeeded by shorter ones about six or eight inches long and the plant continues to grow

these leaves and fruit all summer.  
 It is to be noticed that the  
 plant does not fully mature its  
 spores until the long leaves come  
 off and the plant is exposed to  
 the air; consequently the macro-  
 spores on the long leaved plant  
 I send may not have the sculp-  
 ture on the macrospores well  
 defined but on the shorter leaved  
 specimen they will probably  
 be found mature. These macro-  
 spores ~~are~~ would be considered  
 very small even in the smaller  
 species of Isoetaceae. They are  
 of remarkable shape and of  
 peculiar sculpture. One plant  
 was found having a "bulb"  
 $2\frac{1}{4}$  inches in diameter and  
 having 175 leaves, making this  
 the largest of the North American

species and probably on the whole  
larger than any described by  
European authorities.

I am sorry that  
I disappointed you in June  
but the fact is I was busy  
and unavoidably detained  
here in Newburyport the last  
three Sundays in June

Yours very truly

Raynal Lodge

P.S. Expressing the specimens  
I send it is best to cut them  
in two the shorter way if the  
full change driers several  
times and if necessary to  
bind the leaves being <sup>are</sup> fragile  
around in a crane as when green <sup>the</sup> <sup>off</sup>

X

Newburyport Aug 5 1896

my Friend Tarsenfort:

You say that you think my new quillwort to be *I. Engelmanni*.

You gave it a too hasty examination. Perhaps you examined the spores when green. Nothing can be learned in that way.

As I have collected and examined many hundred plants of *I. Engelmanni* I think that I have got to know it by this time.

Moreover I find no account of its growing leaves

25 inches long and with a bulb  
2 1/4 inches in diameter like one  
of this species which we found

I recognize at sight when growing  
*Linaria. Tuckermanni echinospira*  
*Braunii. echinospira Bortii Engelmanni*  
 and *Eatonii* and I think that that  
 is well as Dr. H. H. H. can do

The longest leaves on any specimen of *Engelmannii* which I ever collected were 16 inches

I could just here write a good many pages giving differences between *Catani* and *Engelmanni* but instead of so doing I am going to enclose in another envelope two dried plants one each of *Engelmanni* and *Catani*.

I shall also send a couple of wooden sticks containing spores of these plants and cover the holes with a piece of paper. By cutting through the paper you can gain access to the spores which will be loose.

In order to render the affair more certain I will send *Engelmannii* from several localities but I cannot well spare more than one plant of *Eaterni*.

Another point in this connection is that I sent you plants taken from the water but *Eaterni* does not usually have well matured spores until these long leaves fall off and the sporangia have access to the air and sunshine but I am ready

to be judged by the plants of  
last autumn which I now send.  
You may hear something further  
concerning *T. Hudsoni* later  
on and you need not be surprised  
if you hear of another "guilluast"  
from this locality before Christ-  
mas

Very Truly yours

Raynal Dodge

P. S. Please notice: that the spore sculpture  
is labyrinthiform convolute instead of form-  
ing a net work like *Engelmanni*; that  
the spores are much smaller and that the  
commissure are very wide in some speci-  
mens spinulose and that they form  
<sup>very</sup> a small angle with the equatorial  
plane. Use an inch lens and a com-  
pound microscope. Let me know <sup>specimen</sup> yours



X

Newburyport Mass 8/14/96  
Friend Davenport,

I am very  
sorry that you can not accept  
my guilluort as new but  
fortunately it has been accept-  
ed by every one else interested  
in the family to whom I  
have sent specimens.

Since last spring  
we have sent out about  
fifty plants to various indi-  
viduals some of them experts  
and yours is the first objection  
I have heard to accepting  
this as a good species

Yes I have two copies  
of Engelmans monograph

one pretty well used up.

I was aware of the dimensions Dr Engelmann gives for *E. Engelmannii* but they are not as large as are mine and besides the dimensions refer to his var. *valida* which has never been found nearer than Delaware

I have a plant of this from Warriors mark Penn. but it is not at all like my plant.

Remark the thin fragile laminae forming the sculpture of *Engelmannii* "delicately honey comb reticulated" to quote Dr Engelmann and then the twisted convolute thick walled marking on *Catalpa*

See the commissures perfectly straight whilst Engelmann expressly says of the family that they are arching. Notice also the low angle with the Equator.

These differences between the ~~two~~ plants are only examples there being ~~the same~~ similar ones in their internal structure but I can not go into that subject now.

I forgot to mention in my previous letters to you that this plant is dioecious.

I am sure that you are on the wrong side of this question.

*P. Engelmanni* grows with this species at East Kingston as a rule however growing nearer the water

but I go along and separate them by eye.

By the way none of the plants I have sent you contain any microspores that is they are all female. Any plant of *E. Engelmannii* you may take you will find to have microspores in abundance unless it is very small. This is a good way to distinguish the two species.

I think that I know a little about the Isactaceae of this region. I have read three of Brauns works in German which I read nearly as well as English and I and my pard have about five thousand plants of this order which we have collected during the last three years

and most of which we have examined. Moreover we have plants of all the species described as growing in North America besides a few from the South as yet undescribed.

I do not find that Dr Engelman cautions against distinguishing species by the sculpture except in the case of microspores.

Another point I wish to mention is that in my opinion these various species of *Isotetes* as described and limited by Engelman to a certain extent mix together but I have never

noticed one thing of the sort with  
*S. Engelmanni*. It is always  
*Engelmanni* even when growing  
 among other forms and I consider  
 it to be the most constant form  
 we have never varying much  
 from Braun's description  
 or varying at all except in  
 size.

I send ~~an~~ by same mail  
 a photograph of *S. Eatonii*  
 the plant being pictured in  
 its summer dress the vacant  
 space between the bases of the  
 new leaves and the outer edge  
 of the trunk being occupied  
 by the long winter and spring  
 leaves. The sporangia remain  
 to a considerable extent after  
 the leaves have decayed down  
 to their bases.

This reminds me to say that whilst bast bundles can always be found in the leaves of Engelmann this is not the case with Eaton's many leaves and in fact many plants being destitute of them and curiously enough this conflicts with Dr Engelmann's classification.

An interesting discovery I have made is in relation to the composition of the integuments of the microspores. Engelmann, Braun, The Micrographic Dictionary and other sources of information which I have examined give the impression that this "chalky white crust" as Engelmann says, is organic or calcareous but with

the assistance of our local chemist  
I think that I have demon-  
strated that they are pure  
silica or nearly pure.

I have written an article  
for *Plute* on the Isactaceae  
of this region in which I  
discuss this subject further

See next copy of the Bulletin.  
I can send you a set of  
Isactes of this region if you  
would like them.

This is probably as  
long a letter as you will care  
to read but there is another  
subject I would like to mention.

You probably noticed  
in the last Bulletin that I  
was to write a little sketch of  
the vascular cryptogams of  
New England. I have finished



writing up the allies we have  
 got into the genus *Aspidium*  
 in the Filices. When I get  
*A. simulata* and *A. cris & marg.*  
 written up which will probably  
 be in a few days I propose  
 sending a copy to you to  
 find whether the descriptions  
 meet with your approbation

With the highest esteem

Raynal Dodge

The spore with indistinct sculpture  
 nearest the top  
 the one ~~to the left~~ on the photograph  
 had its silicous coating removed  
 by the action of caustic potassa

X  
Newburyport Aug 22 '96

Friend Lavenport.

I have been looking over the "Flora of Middlesex Co" a copy of which you kindly sent me some time since and I notice that there are three omissions of Vasc. Crypt. in the list ~~which~~ whose places I think might perhaps be filled. I refer to *Equisetum litorale*, *Equisetum scirpoides* and *J. Engelmanni gracilis*

It occurred to me that perhaps you or some one in your vicinity interested in Pteridophytes might perhaps like to hunt them up and I am going to give you a few hints from my own experience.

*Equisetum litorale* although given both by ~~Don~~ Gray and Underwood as occurring in New England in Vermont (Shores of Lake Champlain) is in this neighborhood one of the most common forms in the whole order. The banks of the Merrimac are lined with it and it extends up into all the inlets and small creeks. The authorities in this country have evidently got most of their information from Middle in his "*Monographia Equisetorum*" but I find Middle does not describe it right as I make it out. He says that the spores are always abortive but the fact is this plant produces three kinds of stems. One the normally sterile running to a long point

that is to say with a long caudate  
 acumination. This is the stem  
~~which~~<sup>and</sup> by which it may be recognised  
 at <sup>any</sup> time in warm weather growing  
 in such situations as limosum  
 grows. I think that you would  
 find plenty of this growing  
 on the shores of Charles river  
 The stems producing abortive  
 spores quite numerous grow in  
 among the others often in mud  
 You will find them with  
 these immature spikes about  
 the latter part of May and  
 continuing until nearly July  
 These stems are about 18 inches  
 long when well grown a few  
 inches shorter than the normally  
 sterile ones. The third and  
 fertile stem I have ~~not~~  
 found growing only in

sandy wet soil; they are rather few in numbers 6-12 inches high and their time of fruiting is quite limited about June 1<sup>st</sup>.  
I think that you can find this thing in your region

*Equisetum scirpoides* of which we have found a good locality in Amesbury grows there on a springy bank in the shade of hemlocks and inquiry from several correspondents leads me to think that those are the conditions <sup>under</sup> which it is to be searched for. You have plenty of hemlock (*Touga Canadensis*) in your neighborhood and probably also the springy banks associated with it

Prof Eaton is mistaken I think in giving the time of fruiting for this species as midsummer. I saw it down year after year being always too late until I finally found it in fruit the first week in May about the same as *Equisetum arvense*.

Dr Engelman gives the location of *Isaetes Engelmannii* as ponds and ditches rarely found in slow running streams. Now my experience is that this species is nearly always found in water where there is a current. In most places it seems to grow in small brooks to the exclusion of any other form. Very common here in barks. But now all the quillworts grow and flourish well.

List of

only in the open sun and when  
 growing in breaks of course  
 some of the spores are carried  
 into places shaded by trees  
~~etc~~ and is found growing  
 some times immersed but often  
 high and dry on the bank  
 in such places growing some  
 times very long and slim and  
 with few or weak bast bundles  
 and this I take it is Engelmanns  
 var gracilis. You can find lots  
 of it in your neighborhood  
 I thought I would mention  
 these facts to you now but  
 you will <sup>find</sup> them touched upon  
 in the next Fern Bulletin  
 Mr Eaton intending to give  
 an account there in of *E. litorale*  
 I send you plants of the  
 three species I have mentioned



although the *Equisetum* is not  
in fruit my fertile plants having  
all been disposed of

I will send the grullworts  
later but I am sorry to say  
that I did not give my  
long leaved specimens of *Equisetum*  
sufficient attention. They have  
all spoiled and as it has got  
to be too late to get them  
this year I shall not be able  
to send you any new but  
will send some to you in  
their summer dress

Raynal Dodge

I enclose my abstracts in relation  
to the two new ferns

X

Newburyport Oct 14, 1896

Yes Friend Davenport, you are right in thinking that I never sent Prof. Underwood friends of the hybrid fern. I never corresponded with him but once which was several years ago, and in relation to quillworts. About three years ago I wrote Prof. Britton asking him some questions in regard to *Aspidium*

*cristatum blintarianum*

He replied that they had no specimens in the herbarium and requested me if I succeeded in securing any to send some to Columbia College. The next summer I obtained plants from very near the typical locality had them compared with Judge Clinton original specimens now at Buffalo N.Y. pronounced genuine and sent fronds to Prof Britten. At the same time I sent him one sterile and one fertile frond of the hybrid but no rootstock, I sent these hybrid fronds, (which were

very fine and characteristic in  
 fact the best I had) so that  
 he might see how they  
 differed from *Chlorianum*.  
 When I told you the story  
 before I cut it short and  
 perhaps you got a wrong  
 impressin. It is pretty hard  
 sometimes to make a man  
 see a thing as one sees it  
 him self. This comes often  
 from inexperience on  
 the other mans part. If you  
 were to take Underwood  
 on a little tramp and show  
 him the situation you  
 would I think make him  
 a convert. for there is

no doubt but your position is the right one. I have a friend just over the ~~at~~ New Hampshire line whom I consider a very acute botanist Mr. Alvah A. Eaton whose name you may have several times seen in the Bulletin. He had an article on *Ophioglossum* in the last number. ~~He~~ was disposed to doubt at first but he has long since become a convert. This book of mine takes up so much of my time that I have not had a chance to get together your Lillworts as I want to send some slides with

them and have not had a  
chance to make them  
I may send you up some  
proof sheets soon for criticism

Truly

Naynal Dodge

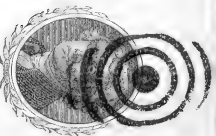


POSTAL CARD - ONE CENT



United States America

THIS SIDE IS FOR THE ADDRESS ONLY.



Mr Geo E. Conover

Woodford

Mass



J

✓

Newburyport Nov 8, 1896

Friend Lavenport,

I sat down

a few minutes ago to reread your article on the hybrid fern - which by the way is a very good one - when I had a new thought occur to me which I am going to give you while it is fresh.

Mechan. remarks in Vol 1<sup>st</sup> of Series II of his "Flowers and Ferns of the U.S." ~~that~~ in connection with his illustration of *A. ebenoides* (I quote from memory) that attempts have been made to hybridize ferns by sowing the spores very thick so that the prothallium will be pushed

up edge ways with the idea of causing the antheridia of one prothallium to enter the archegonia of another. But he remarks that not much success has been attained in this way and says something about there not being one chance in a million of this occurrence taking place.

~~The~~ "The minute anatomy has been carefully studied in only a few of our native ferns and fewer still have been watched through the phases of their life history" (Underwood's Our Native Ferns, page 74)

"In some species notably the Ostrich Fern the two kinds of sexual organs are produced on separate prothallia so that the plant becomes dioecious" (P. 20

But how if either *A. cristatum*  
 or *A. marginale* is dioecious  
 Who has ever investigated this

If any one it is probably Douglass  
 Campbell. I have not access  
 to his book on the Development  
 of Ferns and Mosses but it  
 is quite evident that if one or  
 either of the parent ferns of  
 our species produces dioecious  
 prothallia that then this case  
 of ours become entirely clear  
 for there is evidently no reason  
 why the antheridia of one sort  
 of prothallium should not enter  
 the archegonia of an other sort  
 and as the ferns are very near  
 allies they ~~are~~ would probably  
 fertilize it this occurrence ta  
 king place just where we  
 should expect that is at the  
 foot of dexterities where the

two ferns meet. At any rate that is the way I am betting until I find out more about it. If no one has happened to think that the ~~question~~ fact of dioecy has a bearing on the hybridity of ferns I don't know but what I shall investigate it myself.

Respectfully

Raynal Dodge

V  
X  
Newburyport Mass 12/9/96

Friend Davenport:-

I am glad

to see that you are moving  
along towards the position  
I have sometimes taken in  
discussing with you the sub-  
ject of hybridism. You write  
that Prof. Underwood objects  
to describing hybrids as not  
being specifically distinct  
but I am foolish enough  
to think that he has descri-

led three hybrids in Britton's New Flora and that I could prove it if I was circum-  
 stanced so that I had an opportunity. Besides this I know of several others which are native to these New England States and have specimens of them.

The advocates of this system of searching out the original name and of making every thing to conform to it are going to find themselves in a peculiar position eventually. The number of recognised hybrids is going to increase and meanwhile

some plants now considered  
 species will be shown to  
 be hybrids so that hybrids  
 will have two different  
 kinds of names. What will  
 they do about it. Now don't  
 you think that I am talking  
 wild. I can form a pretty  
 good judgment on a subject  
 when I know all the cir-  
 cumstances, and the best  
 place to find out the  
 circumstances in this  
 case is in the woods and  
 swamps. Underwood I  
 think received the hybrid  
 from Dr Graves of New  
 London Ct. I suggested to

the Du last winter that he  
look for it the present year  
and he sent me some fine  
specimens awhile ago as well  
as of *D. simulata* and *I. Tuck-  
ermanni* the latter of which  
has previously only been  
reported from your neigh-  
borhood. I may at some time  
join your Hart. Soc. but I  
am not much of a joiner.

You probably remember  
that I wrote you awhile  
ago relating to the crust on  
the macrospores of the  
Isoetaceae being composed  
largely of silica and that I  
thought that it had escaped



the observation of the german botanists. I have had some spores analyzed and find that the crust is about 90% silica. Now I wish that you would do me the favor of copying and sending to me just what Hofmeister says about it. I had a person from the city here go to your library and look the matter up but he did not understand very well what was wanted. You have ~~about~~ already been obliging enough to consult Campbell in the matter and I have Sachs ~~Lehrbuch~~ Lehrbuch which ~~does~~ not make no mention

of the matter. Hofmeister  
 does but I would like to  
 know just what he says  
 Possibly too you may have  
 a later edition of the Micro-  
 graphical Dictionary (English)  
 than I have which may  
 have some reference to it  
 There is nothing in the  
 older edition.

The fact is there spores  
 sweat almost pure silica  
 having the appearance of  
 carbonate of lime and as  
 near as I can find out ~~actually~~  
~~as the~~ the German botanists  
 have not taken in the situation  
 I am not going to use the  
 photograph of G. & Atomi

which I sent you. The figure of the plant did not suit me so that I have had two photographs taken which will give me fuller dissections. I hope to publish in the January number of the Bot. Gazette.

Raynal Dodge

When I say that there are three hybrids described in Britton's Flora I include neither *A. ebenoides* or *A. parvulum*. That is a wretched illustration of *A. simulatum* in the New Flora.

1

X

Neiburyport Mass 12/21/96

Friend Davenport:-

it is all  
right regarding Hofmeister.  
My German friend here got  
a copy and I have given  
it an examination. I sent  
in my Abs. last week and re-  
ceived a letter to day from  
Prof. Coulter ~~the~~ stating that  
the article would appear in  
~~the~~ <sup>an</sup> number. I think  
that you will say that I

have dissected this quillwort in fairly good shape.

Palmer of Media Penn. writes me that he is to have a short article in the Dec. number criticising Under-woods illustrations of the quillworts especially ~~the~~ of the macrospores. Judging from what he wrote me I should say that his article was altogether too fierce.

I think that under the circumstances it would not be well for me to join the society of which you speak. If I were to become a member the

chances are that I should never attend any of their meetings. I have been in Boston but once in four years and then I only passed from the Union Station to the Providence Depot.

When you wrote me that your article on the hybrid was out I wrote to the G & F people and got 50 copies ~~of~~ extras. At the same time I sent 10 cts asking them to send me a copy ~~of your article~~ of the paper containing your article on Simulatum as soon as it was published and also asking them

to print me 50 extras. As they did not come along I sent them another letter in relation <sup>to</sup> it. You understand that I was anxious about it because I wished to place a reference to it in the Appendix of my book and was hinted for time. They wrote back that as soon as the article was published they would let me know. But they did not let me know and the first intimation ~~I~~ of its publication ~~and~~ I received from you. Then I jogged their memory again and they sent me two copies

of the paper but no excerpts  
 I received the papers Monday  
 and have heard nothing  
 since and I don't know  
 whether I shall ever get  
 any extras but your writing  
 that you have received  
 none gives me a little hope

I immediately on your inform-  
 ing me that simulation was  
 described Dec 2 I wrote to  
 Blute so that I got it in  
 the Appendix all right

Of the 50 copies of G & F  
 for Nov 4 I have distributed  
 35.

I expect that my  
 little book will be ready



next week. By reason of its condensed style and fine type it will not be as large as I expected probably about sixty pages and will sell for 35 or 50 cts according to binding. Don't you think that most people would prefer to pay the difference for good covers.

Fig 5 and 6 certainly are transposed in the numbers for the rootstocks. Moreover ~~and~~ I have dug up a large number of the roots of these three ferns where they were growing very near each other and in the same kind of soil and I am of

the opinion that the bases of the fronds of previous years are much more persistent in simulation than in the others

I refer to your use of the word lamina in my book but I am not sure that I worded it to suit you

I see that Underwood has got *B. ter. lunaroides* re-described as *B. bi-ternatum*

All to whom I have sent your illustration of the hybrid fern and who were acquainted it say that Foxons drawing is excellent.

I believe that I have not  
 told you that we have found  
*Lycopodium alepcurvicolle*  
 on Plum Island. That is  
 I sent ~~him~~<sup>Gator</sup> down there early  
 in Oct. for *L. inundatum*  
*Bigelovii* we having seen it  
 there in August and he  
 came back with the  
 species I have mentioned  
 It had not matured its  
 spores even Oct 5 the season  
 here being apparently rather  
 too short. I noticed that  
 all the *Lycopodiums*  
 were late this season  
 You will find more  
 of this in the next num-

her of the Fern Bulletin

I managed also to get this inserted in the Appendix of my book. W. Alphonso Merrill writes me that in the next Bulletin he gives his experience with *A. ebenoides*.

I don't know as you will care to see a copy of my book when I tell you about it. The fact is that Clute and the publication of Britton and Brown's New Flora ~~have~~ and one thing and another have persuaded me to give up the name *Aspidium*

for Dryopteris. I don't know  
 as I feel like entering the  
 arena in this question and  
 the drift of things seems  
 to be all Britton's way.  
 But I wish that Under-  
 wood when he decides on  
 a name would stick to  
 it. Now in this fern list  
 of blutes which Underwood  
 is mainly responsible for  
 he changed the names of  
 four <sup>Equisetums</sup> ~~Lycofractums~~, that is  
 they are unlike the names  
 in Gray's Manual. ~~The~~  
~~changed~~. He changes limosum  
 to fluviale, the y, in sylvaticum  
 and hyemale to i, and

spells *litorale* with one t as it really should be spelled. Now in Britton's Flora he has changed three of them back to the old spelling.

That you see leaves me in the lurch. I notice too that in the New Flora he has changed ~~Pellaea~~ *Pellaea gracilis* to *P. Stelleri* and *D. aureolecta* *Braunii* to *D. Braunii*. this last however being a change of a different nature. I will speak to Eaton regarding your so Bot. Soc. He would be a good addition to any botanical club.

Raynal Dodge

Newburyport Feb 1, 1898

Friend Davenport:

your  
notes of Jan 21 & 30 came  
duly to hand. You ask  
if you did not order two  
copies in cloth. You certainly  
did and I sent your order  
to Blute. You do not say  
what you received. If you  
have received one copy  
in cloth I can send you  
another immediately but  
if you have received paper  
covers and want two cloth  
ones I shall have to

speak to Blute about it as  
all the cloth covered copies  
I have ~~are~~ but two are  
engaged. I have half a  
dozen paper covered ones.

All I have seen yet  
of the article in the Gazette  
is the proof. but I expect some  
excerpts soon and shall  
send you some. You see  
I do not subscribe for  
the Gazette but for the  
Tarrey Bulletin and ex-  
change with Eaton who  
does.

I notice that your  
remarks in the Gazette on  
the use of the word friend



are entirely in accord with  
the ideas in my book. (see end \*  
of letter)

I don't quite agree with  
you when you write that  
Underwoods orthography of  
the Equisetums are to  
be considered typographical  
errors. You understand  
the spelling on just three  
was changed for better  
list and now in the new  
flora they are all as in  
Gray's Manual. Or else  
he is careless; as for instance  
in his list of the ~~ferns~~  
ferns he found in Alabama  
as given in November No  
of Gazette he mentions

mostly suggesting

*A. thelypteroides*. Now this is one of the names he has given up. Speaking of *Equisetum* reminds me of a curious discovery which I made this winter. I received some specimens of *Equisetum littorale* a year or two ago from Eggleston the locality being shores of Lake Champlain as given in Gray's Manual. After I found *E. littorale* so abundant here on the banks of the Merrimac I compared the plants with Eggleston's specimens and found

that they were quite unlike the Vermont plants verging towards *E. palustre*. I am thinking now that *palustre* mixes with *arvense* making a hybrid just as *littorale* does with *arvense*. I hope to investigate this further at some time. ~~Eaton's~~ Eaton is engaged now in studying the *Equisetums* but I have never mentioned this case to him.

The fact is that there are a lot of problems in connection with the Vascular cryptogams still unsolved. New ones come

to my mind quite frequently

I think that some one ought to take these Vascular Cryptogams say in Britton and Brown's range and study them up in fullness and all and write an illustrated monograph on the subject. I predict that a good many facts would come to light. Now is the time to do it as Eaton's work is about out of print selling for \$40 dollars a copy nothing but the ferns illustrated or described and several omitted altogether. I think that a man could spend two years

time on that undertaking and come out whole from the sale of his books besides gaining a reputation

Why dont some of these people who spend so much money on the hot house culture of flowers see it in that way.

Many of the species have never been illustrated except by figures such as those in Brown and Britton's flora. I dont know how the plates of J. Eaton's look but if they are like the photographs I claim that they are the best that

have been made of any species of quillwort.

I sent a copy of my book to the Transcript and one to the Advertiser hoping that perhaps they would notice it.

Very truly yours

Raynal Dodge

\* This is certainly very gracious on the part of Mr Dodge who is wholly indebted to me for the "ideas", a fact of which he fails to make as full an acknowledgment in his book as he ought to have done.  
George E. Davenport.

Ithaca, New York,

Nov. 6 1887

Mr. Davenport

My Dear Sir

I know well enough our poorly scientific work, especially that which is of any value, remunerates its authors, and I am more than willing to pay what was due from every subscriber to the Monograph if he rightly appreciated its value and the evident labor and discrimination shown in it. I therefore enclose the additional amount. Now, I know, as a portion of a price asked, yet as some thing that is justly due from me, after looking it over

more carefully than before,  
and agreeing as I do  
with Mr. Robinson as to  
its worth.

I have not been as industrious  
as I had hoped, about finding  
the rarer Botrychia about here,  
which I have selected a  
considerable number of rare  
things in other directions.

*B. matricariaefolia* abounds in the  
only one of the very choice ones  
that I have selected. I still  
believe I have a right to select  
*B. lanceolatum*. *B. simplex* & yet  
none *B. Sunaria* here. I have  
not looked sufficiently much  
in June & early part of July  
my work in collecting during  
the past summer is all  
done ~~before~~ <sup>after</sup> July 15, & it was  
very painful & good things

in some directions, I feel that I  
have secured a number of the  
best of the rare specimens being in 1895 -  
I have often heard this before, & I believe  
I speak of you since the first year - but also  
when so cordially I have mentioned that I  
never felt nervous. I think you have  
material ~~the~~ <sup>in</sup> the *matricariaefolia* & *matricaria*  
but I am not at all

By Mrs. J. W. W.  
William W. W.



117 West 43<sup>rd</sup> Street  
New York 7<sup>th</sup> April 1883

Mr Geo. C. Davenport  
Medford, Mass.

Dear Sir

I have your P. O. Card of  
— April, and only regret it would  
not be in my way to use more  
than a single copy of your "Supple-  
-ment to your Catalogue of North  
American Insects, (if published.)

The 'Check List' I would not want.  
With good wishes, however in  
connection with the publication.

I am Yours truly  
Robt. D. Davis (Jr)

Mohrle ad.

Dec 9<sup>th</sup> 1881

Mr Geo. E. Droney, York,

Dear Sir,

Your letter of the 2<sup>nd</sup> inst. in answer to mine of same date is of this AM.

And as I shall be busy during the Christmas holidays I hasten to answer to show my appreciation of your kind note & promptness.

I am sending you by mail two specimens viz (1) one *Batrachium* *obliquum* Mull.,

" " f. *terminalis*?

*Adiantum capillus-veneris* L.

(*Pteris caudata*, L. f. Suppl. 425, 1781. (C. Mohr))

The second one is a form of *Batrachium* of which I am not entirely satisfied, but I put it *forma terminalis*, as coming nearest to

what I find of it, not having seen text  
book in which it is described.

Dr Chas. Moore's "Plant life of Ala." and  
Dr W. Small's "Flora S.E. U.S." do not  
give any description which I can make  
fit but in <sup>3 Moore's</sup> Vol. XII. No. 2, 1893 there is a  
form *Oncidium* mentioned which may cover  
this form but unfortunately I have no  
work containing a char. variety.

Some time last Fall I sent specimens  
to Mr. Lute and asked his opinion of  
it, and he wrote me that it seemed  
to answer Prof. Underhill's *hibernatum*, &  
at the time I thought so too, but sub-  
sequently I have changed my opinion  
as I have seen *hibernatum*. You & I  
are convinced that it is an entirely  
different plant, & clearly entitled to  
specific rank.

As you will notice the specimen I  
send is of same form as the normal  
*obliquum* & is petioled in a similar  
manner, was found growing under

Similar conditions, in similar locations  
& fruiting at same time while  
the hibernatum is a smaller plant  
and those I found were much smaller  
only about 3 to 4 in long. (the sterile frond  
and in fact some were just pushing  
through (last week in Nov. in fact that's  
growing day; and the fronds were sessile  
to nearly 20, and were semicircular &  
too low to the ground to be in any  
great danger to be browsed by cattle,  
unless it was by sheep, while the  
obliquum & the obliquum ternatum as  
I call them) were erect until cold  
weather when they have assumed a  
bowed appearance & are entirely re-  
cumbent, & also were any way from  
3 or 4 to 10 or 12 in (the sterile frond) &  
the fruiting one several in higher  
I have Beside the hibernatum will  
not be in fruit for at least a  
month or two yet which agrees with  
Dr Mohr's time for fruiting Feb to Apr

I did not take any plants of the heteromallum, except one or two as I did not want to collect them until in fruit.

I have several sterile fronds more of the obliquum ternatum (as I describe it) and should you wish and more of them let me know, am sorry I have not another fertile specimen.

I also have some duplicates of the obliquum much larger than those I sent, and should you wish any more of them let me know.

I would like to know your opinion of the Botichia after examination, as I have not labeled my herbarium specimens yet, waiting till I was sure what its correct name may be.

I have been fond of Botany all of my life, but my time being limited for the study of it, I am only able to go into the woods occasionally.

5  
but try and make the most of  
what opportunities I get.

I have only been working on the  
ferns for 18 mos or 2 yrs and do not  
feel as if I know very much about  
them.

My herbarium is not large and  
any additions to it will be very  
gratefully received.

I will add a list of what I have  
not got, not expecting to receive  
all I mention, but only to show  
what I have not, which is a much  
larger list than what I have.

*Aspidium novboracense*

" *fragrans*

" *marginale*

" *filix-mas*

*Asplenium pennatifidum*

*Botrychium* (only those as I have sent)

*Cheilanthes* (none)

*Pellaea* (none)

*Scolopendrium* (none)

*Struthiopteris Germanica*,

any of the above will be thankfully  
rec<sup>d</sup>, especially the *Botrichia*.

We can send specimens now of  
*Botrichia*, larger than those sent today,  
*Woodwardia areolata*

*Struthiopteris palmetum* (Sw) Kuntze. *Botrichia* sp.

*Aspidium* " (Sw) Fl. Brit. 1613, 1717

*Nephrodium* " (Schreb.) Hook. JB Vol. XII. #4, p. 105

*Polypodium incarnum*

Can send another season, any of following  
which may be of interest from the locality  
from which they come, i.e. So far South.

*Adiantum cinnamomeum*

" *regalis*

*Woodwardia virginica*

" *areolata*

*Athyrium filix-femina*

*Asplenium phlegmaria*

" " *f. incisum* (Schreb.)

*Poly podium nigrum*

*Pteris serrulata* - adventive;

*Adiantum Cap. ven'*

*Pteris, aquilina, pseudocaudata.*

*Aspidium thelypteris*

" *palens*

+ perhaps one or two others which are said to be here, but which I have not found as yet.

I am in correspondence with our State Geologist (+ no mean botanist) Prof E. A. Smith, with the view of getting some plants of the *Asplenoides* from the station at Stavauma Ala, don't know how I will come out but hope for some success, if I do will let you know in case you have not that rarity.

I am also trying to get some specimens of *Trich. Peterii* from N Ala but that is quite uncertain as yet of that too much more.



Now my dear Sir: I hope you  
 will not deem this to long & tire-  
 some, but will bear with a strug-  
 gling amateur, in hopes that I  
 may enlist your sympathy and  
 assistance & that I may be of  
 some use to you, for you know  
 we sometimes stumble on what we  
 most want by mere accident  
 Hoping to have the pleasure of a  
 reply at your convenience  
 I remain

Yours very truly

W. C. Dukes

259. N. Franklin St.  
 Mobile

Woburn Mass

Dec<sup>r</sup> 11<sup>th</sup> 1902

Mr. J. E. Sargent

Dear Sir;

Many thanks

for the two boxes which arrived a few days  
ago. The specimens, which were not available  
to send with last lot, and hope  
they may reach you safely and in  
good condition.

I will try and send  
shortly a series, young, sterile, f. of  
of the *B. heterostylum*, such for you  
to see what it looks like, then to be  
of any use as a specimen.

I will put your name on my  
"memo. book" and when I can secure  
a good fruiting plant will send you  
some of them.

Yours kindly  
G. A. Sargent

me the name and address of some  
 person student out West from whom  
 I can get in exchange some of  
 the western varieties, or forms?

Thanking the friends that I have  
 sent many be of use to you and  
 that I may be able to serve you  
 further I remain

Yours truly

J

H. C. S. Allen

Mobila Ala  
Dec 31/04

Mr Geo E. Laneuport

Dear Sir:

Your favor of  
24<sup>th</sup> inst came duly to hand.

But so far the specimens of which you spoke have not been rec<sup>d</sup>. - I suppose perhaps for some reason you were unable to send them when you intended, or perhaps they may have gone astray, however I shall hope to receive them in a day or two.

I am sending you another batch of Batrachia, nothing new, but I thought perhaps they might show some progression or retrogression in one species or the other. The heterotatum? will show or ought to show some advancement and in one specimen a lateral branch shows the mermatum very plainly, and

another one shows the point where the fertile frond makes off.

I shall endeavor to send you specimens of this variety at stated periods so that you can trace its advancement to maturity.

I have transplanted three plants into pots and mean to study it at nights, (my only time for study) and will then make notes as I study and embody my observations in a short treatise, for your perusal or for the benefit of the readers of the "Fern Bulletin", the only thing which would deter me from the latter would be that anything which I wrote would smack so much of the amateur that some of my kind(?) fellow-members would (in parlance of the day) "jump on me with both feet."

I will also send several specimens which I take to be young plants, and all found of this size & in this peculiar location, (at the head of a branch, & quite damp with

the overhead foliage much denser than in situations where the plants of the normal form are found) seem to be more incised than those growing in more exposed situations.

I also noticed that all the plants of the B. obliquum & of the B' obliquum (with <sup>and also the variegated form</sup> ~~lunate~~ segments) which had fruited, the sterile frond was lying down flat in a lump recumbent condition, while ~~the same plants~~ <sup>in the same locations</sup> while the plants of the same varieties, which had not fruited at all this season, were erect & had a fresh, crisp, & green look. - and if it was not for this fact I would be more satisfied to consider the biterminalis a form somewhat farther removed from the typical obliquum, than a separate variety, but when its time of coming up is considered, its peculiar yellow cast, & the shape of its <sup>sterile</sup> frond, its semi-recumbent sterile frond, showing even at this date (Dec 26<sup>th</sup>) lateral, undeveloped, sterile fronds, & the embryo-state of the fertile frond. I am

loathe to, set my opinion up for its being anything but a separate species.

I also noticed that I found it only in old abandoned fields, which were under fence, and at the edges of clumps of Cedars & Gaupen hedges, sometimes under the overhanging boughs, but have not found it so far, in open woods where some of the best specimens of the other two *Babingtonia* & *B. teratophylla* were found.

I think I have enough located to supply our wants, with plants at different stages until I gather the mature plant.

I have two friends here in Ellendale Messrs M<sup>c</sup>Neil, (Paper & fillers) who are ardent admirers of Prof Underwood and they too are after the same plant for him and I am afraid that they have located my colony (it contains 100 or more in the space of about 2 acres) if so I will have to be "up and doing" to try and not be out done. They are nice

5

men but we don't go out together  
<sup>often</sup> much, because they seem to resent  
the fact that I am willing to  
gather information & help from other  
sources,

I am after taking what looks like  
"Truth" from whatever source I find it

I have as text books, Dr Mohr's "Plant life  
of Ala.", Dr Small's "Flora A.E.U.S." - Gray's  
"Lessons in Botany" 1891, Clute's, "Our Herbs in  
their haunts" Hudson's "Our Native Ferns" &  
Smith's "Historia Silicis." so I lack my  
faith implicitly to none, but consult  
all, & glean here a little & there a little

I am fixing to try next season for my  
own satisfaction to try & raise an  
*Asplenium ebenaides*, artificially, in sim-  
ilar lines to what is given in Our  
number F.B. by "your humble servant"  
I meant to try the *Camptosorus rhizophyllus*  
spores with both *Asplenium* <sup>(the incise form)</sup> & *A. parvulum* &  
perhaps with *Athyrium filix-fœmina*

Mr Clute intimates in his work that perhaps



this cannot be done, except by sectioning, but if a chelone is an hybrid it occurs without such means, as Nature surely does not employ any other means, but importation or juxtaposition + it is on that line I shall work. - but I sh<sup>d</sup> not bore you with this line of speculation.

I have intended ever before I had the pleasure of serving you, to get specimens of what Ophioglossi I could, at the Dr Mohr in his P. L. of Ala, only as so two varieties O. Crotophoroides and O. pusillum, the later he says "very scarce" while Dr Small gives another, viz. vulgate to Fla + I think possibly it may be with us also, as both Fla & Ala are I think included in the "Louisianian area" - of Botrichis, Mohr only gives three viz ablyq. laternatum + to Mobile to a reduced form of B virginianum - viz B. gracile, the later I have not found yet but hope for better luck another season. There is in the lower part of an

adjoining Co. (Baldwin Co) on sections  
lying opposite mid flower Fla., where  
there is said to be several forms  
of ferns belonging to the tropics,  
I am planning to take a trip  
there next Spring, if I do and should  
happen on any "finds" will let you  
hear from me.

Now my dear Sir: I did not intend  
to inflict such an offense upon  
your good nature when I began  
but must beg you to excuse me  
this time & promise not to do so again  
but the study of Botany is to me the  
recreation to a man closely confined  
all day, whose means, unfortunately  
are not commensurate with his love  
of Nature.

Hoping that you will bear with a strug-  
gling amateur & extend occasionally a  
helping hand. I am

Very truly Yours  
W. C. Dukes.

P.S. The thought occurred to me to give you the references given in Mohr <sup>for B. heteroternatus</sup> P. L. of Ala. for while you may be familiar with all of them there may be one which would be of use to you.

"*Botrychium heteroternatum*. (Lam) Under, Bot Gaz 22: 407, pl 21. 1896

*Osmunda heteroternata*. Lam. Encycl 4: 650. 1797

*Botrypus lunaroides* Michx. Fl. Bor. Am. 2: 274. 1803.

*Botrychium lunaroides*. Sw. Syn. Fil. 172, 1806.

*B. ternatum* var *lunaroides* D.C. Eaton Fns. N.A. 1: 148, t. 20, f. 3. 1877

Eaton, Ferns N.A. 1. c.

Herb. Geogr. Burr Ala. - Herb. Mohr -

Type locality -

'M. Michaux a découvert cette espèce dans la Caroline-méridionale' "

The above is not intended in any way to instruct or enlighten you, but merely given in case they ~~now~~ throw more light upon the subject  
yours  
W. C. C.

Feb. 11.

Jan'y 18'85

At the risk of being considered tiresome, I will add a few more lines.

This evening I took a short stroll in the woods to procure a few seeds of *Polypodium*, in order to send to a correspondent in Ohio, <sup>where</sup> I saw across one or two plants of *Botrychia*, which I dug up and send with the others to you.

The only reason that I thought them of sufficient interest to send was, because they show a peculiar form, and one which I have not heretofore observed.

You will notice that they have sprouted, as it were, a secondary sterile leaf, the old original sterile leaf has evidently been cattle-browsed, and I should judge from the small part of the leaf surface left that the frond was originally of the hyp-  
hypophyllous oblongum form, as were all the <sup>other</sup> specimens immediately about them, which were more protected than these injured

ones, but you will notice that in form  
and size the secondary sterile leaf  
is very similar to the small specimens  
of heterostemon I send.

I am familiar with the fact that many  
plants try to retrieve the injury done them  
in their early stages of growth, giving  
rise to the form abtuscalabata in Onoclea  
& perhaps in Woodwardia, but this is the  
first instance I have noticed any such  
occurrence in the Botrichia.

Hoping that this will afford sufficient  
warrant for a second post-scrip to a  
too long letter under ordinary circumstances.

I am &c.

Yours very truly  
W. C. Cuskes.

Mobile Ala Jan 5<sup>th</sup> 05

Mr Geo E. Davenport;

Dear Sir:

I am very glad to report that the pkgs of specimens have come to hand safely, and I am delighted with them, and want to express my thanks for them, and the generous manner that you sent

I shall certainly experience much pleasure in studying them, especially the *Poltrichia*.

The notes accompanying the package have been carefully read, and much enjoyed, but have made me realize that I am indeed a novice, nevertheless it gives me food for thought, and also opens up new lines of study to me.

The only phase which I can see that you have not thoroughly investigated is the chalcid phase, but even that I am by no

certain ~~that~~ you have not fully investigated.

The specimens from the West & Alaska were all sent to me and shall have my careful attention.

Your treatment of the B. trichia, in connection with the two specimens last sent you have shaken my faith in B. hibernica as a separate species, but I shall give it closer attention from now on, both in the field & those I have growing in pots at home, so that if there should develop anything abnormal I may catch it.

One pot I have decided to stimulate with sheep manures, bone-dust, <sup>sheep manure</sup> slacked-lime &c to see if I can hasten the time of fruiting and also increase the size of the sterile fronds, which if I do well I think make it very similar

to those I have sent you are which  
 you may come to describe as a *la-  
 tera* or *terre*.

One of the plants in the pot seems to  
 have already overgrown the others & is less,  
 its decurrent leaf & the sterile head is  
 less, more, more triangular in shape &  
 the segments look to me as if they are  
 assuming longer petioles, which if true  
 will bring it much nearer in form  
 to the terminal form above referred  
 to, & is also losing its peculiar sessile  
 or semi-sessile character it first had  
 when transplanted.

I have sent a box of spores gathered from  
 a colony in which grow both forms  
 the normal *splanum* & the terminal,  
 side by side, to a friend of mine  
 near Philadelphia, who is so situated as to  
 be able to grow them under glass.



able circumstances and I will ask  
him to make if both forms are  
produced from these spores, for if  
so that will be additional evidence  
that they are but different forms  
of the same species.

I shall also try myself on the same  
line, taking in as Mr. White's sug-  
gestion in *N.B.*, Vol XII, No 3, p. 18, is  
that they & the *Tucabodinus* are de-  
pendent upon a fungus being pres-  
ent for their perpetuation.

There are one or two questions I like  
to ask, which I be obliged to you  
to answer for me at your convenience  
One is how long-lived are spores gen-  
erally? Will they keep <sup>over</sup> from one sea-  
son to the next?

Another is if you know who has  
*Synopsis Filicinum* for sale? I have

written several parties, but so far  
have not been able to locate the  
publisher.

Holding myself in readiness to  
serve you in any way I can  
Remain

Very truly Yrs  
W. L. Dyer

Wahine Ala. Jan 11<sup>th</sup> 1885  
Mr. S. E. Green, Jr.  
Chas. A. Brown.  
Hawaii.

sent a few specimens of *Oppenidia* -  
*theroides*, from the same place, I send,  
our State Geologist, (and our marine  
botanist also) I am sending you a  
specimen by the same mail as  
this.

I am sorry I could not send  
more, but I only got a few, but  
hope this one will be of service to  
you.

Prof S. writes me that the  
colony of this fern at Harawa Ala  
is 'not near' so large as it once  
was, and has been drawn upon so  
freely that it will perhaps become  
'exhausted.'

He also writes me that "the slugs should be well preserved by brushing them over with a solution of corrosive sublimate in alcohol, to preserve them from insects." The above may be entirely familiar to you, but at merely reciting it in "care" it is not.

I am having some fun trying to settle the difference between some specimens sent me from NH & from Tex, one is labeled *A. cristatus*, another *A. Baillii*, another *A. spinulosum nitens*, & a *spinulosum dilatatum*, it certainly makes me muddled,

The *A. hibernicum* show no signs of a fruit spike yet, but I have my eye on them, and the fellow who "gots there" before I do has got to "be up and doing"

I have found another small colony

Since writing your letter, but they do not seem to be plentiful around Mobile, at any rate I have not come across any localities.

My plants in pots at home are growing farther apart, or so it seems to me one is decidedly retarded as I wrote you & looks more like the spec. I sent you in the Fall, & if it was more stocky it would resemble more a spec I have from Mr. C. Bucklester, Griffin's Corner <sup>Cal. pub. N.Y.</sup> (labeled 3 Haberi, & I think cal ~~in~~ <sup>H. f.</sup>). I have no text-book giving that var so do not know much of its history & can only compare my growing plants with my herb specs.

I shall make another trip out in the woods soon and if I see any change worthy of note will send you a

about or so if not well merely make  
notes & write you, leaving the plants  
until the fruit comes.

As an kind suggestion I have writ  
ten Mr. Stett, Tacoma Wash, in hopes to  
be able to obtain from him *B. occidentale*  
& *salicifolium* (under with these & *Brig.*  
*var. gracile* (which as I in goes in the  
next lot) I will have about all the var  
I know of, in my herb.

I am in correspondence with two  
parties in N. Ala with the view of  
trying to get *B. Peterii* & *Alabamensis*  
*A. pulnatipedium* & other <sup>of the</sup> rarer ferns from  
that section, should there be any among  
them (if I am fortunate in getting them)  
that would be of service to you let  
me know and I will set it down  
in the memo-book I keep for that pur-  
pose

I have also written to a young friend  
of mine who is in Panama, as Secretary  
to our Consul there, and I am in hopes  
of getting something interesting from  
him. Would plants from that section  
interest you?

I am also trying to get some of the  
F. Fla. forms, especially *Adiantum tenerum*.  
Do you know any collectors in Fla.  
other than Mr. S. Rapp of Sanford?  
Since I have consumed too much of  
your time I will close.

Hoping to have the pleasure of  
hearing from you again some time  
at your convenience. I remain

Very truly, Yrs

W. E. Dukes

Mobile Ala. Mar 1<sup>st</sup> 05

Mr. Geo. E. Danforth:

Dear Sir:

I take the liberty  
of inclosing two small photographs,  
'in case' I would be glad to have you  
look at with your eyes.

They are from two of my specimens &  
I am pretty sure are same, as the iden-  
tity of one of the I am not quite sure.

I have now boxed them #1 & 2.

#1 I am sure is *Cambosoma* *umbellifera*,  
but #2 I am not certain of, I think it  
is *Asplenium* *filicinoides* from the  
form of veins of the sori, but the veining  
is the part which puzzles me, as far  
as I can make out they both have  
reticulated veins, while the *Asplenium*  
I believe are free-veined, then again  
they both have the little discs on the



specimens of the honey, which I will send  
 enclosed in the accompanying letter.

I have a great object in view in obtaining  
 a number of your letters, and the  
 more of you the more, and I  
 am sure that the more you write the  
 more you will enjoy the work.

If it is not too much trouble I'd  
 be glad to have your opinion.

Having some time at my disposal  
 in the intervals of my labors I  
 cannot leave in the woods and  
 the pleasure of locating one or two  
 new colonies of *B. bitruncatus* &  
 I think I will be able to secure  
 the specimens I want.

I found them this time entirely in  
 the open, in old abandoned fields  
 without the protection of trees, bush  
 or brush-heap as is customary with

the oblique one, at the same time it has a distinct, thin, even, thin, even, but not, of a light green, showing more of the blue, than the other green in unprotected situations.

There is also a quadruplicate servant to mention in regard to the larger form which I have spoken of as *B. trinitatis* (Guineensis major). I write you that they did not show as much of the red yellow as the oblique did. But on my last trip, since our boat swept & found several which were lying flat on the ground and looked like *B. unicolor* - bronze, much as the oblique do, but found none with fruiting spikes. altho' I dug up several of them for the specific purpose of looking for a fertile spike but found two specimens with the

etc. etc. plants, yellow & decidedly on the wane, but with to small new sterile fronds just above the ground on the same rachis, below the old frond, there certainly must be a strong effort to keep them and to internode.

I also located some 25 or 30 plants of *O. bulbosum* (Duck), found them such there in the open place under shelter, the ones just above ground there with the fourth spike encircled by the sheath of the sterile frond, just waiting for the soft touch of rain to woo them & make them raise their heads & greet their neighbors for the season of 1905.

I think if no more cold comes to us, that in about two or three weeks I may gather some good

specimens.

I am studying the difference bet  
them in detail, but am afraid  
I will not be able to locate the  
dates, unless by slow accident. Still  
I mean to keep my "own skin" for  
you are told that it is the un-  
expected which always happens.

Hoping you will pardon me  
troubleing you so often & that  
you will not deem my sending  
like photos "too many"

Yours sincerely,

Yours very truly,  
W. C. Coker

Mobile Ala.

March 15<sup>th</sup> 1905

Mr Geo. E. Pauer, York

Dear Sir:

I am sending you today by mail a few more specimens.

The *Batrachia belmontiana*? are just coming into fruit (March 12<sup>th</sup> on) and as you see they are of an entirely different line of fruiting and as far as I can judge are a different plant from the *B. obliquum* and also from specimens I have labeled in pen cit. *B. l.*, which major until I can get its true pedigree.

I also send a few *Ophioglossi*, for altho' you do not mention them I suppose as they are of the "same breed of pups" you might like to take a look at them. I think that they are rather undersized, which may be occasioned

by the cold weather, it having been quite severe weather for us during Jan & Feb.

I shall be in the country, and if I find any unusually good specimens of either *Botrychium* or *Phacelaria* will send you a few more.

I think I have sent all varieties which are found near us, with the exception of *C. pusillum* and I am afraid I am destined to be disappointed in finding that one, but will try every chance I get to discover it, but as the season for them with us is considerably short, I am afraid my chances are small.

If I had been able to have assisted you in any way I am glad, as it will make me feel that perhaps I have been able to

today, you for your generosity in  
sending me a specimen.

As I am thinking of buying some  
reptiles, I would like to worry  
you with a few questions.

Mr. Stejneger in his account of the  
new A. platyrhina in *Phrynosoma*  
mentions one portion of the "mitallus"  
as containing the archidia + another  
the archidia. - How can I tell "taller  
from which"? Was it taller and set  
plain or is it only revealed by the  
grain?

Among the spec' you sent to  
me was a crested *Arctostaphylos*, from  
Bear Hill, Tex., if I remember correctly.

Can you give me the address of  
any party thereabouts from whom I  
could procure roots? I think it is  
a particularly handsome fern.

Finally I will say that if I can be of any use to you in getting around about in any other way besides your I shall be glad to have your command me.

Thanking you for all your kindness and hoping I may not get "out of touch" of your pen and good graces. I remain,

Very truly yours

W. L. G. L. G.



X

Mobile Ala Dec 15

Mr. Geo. E. Lavenport

Dear Sir:

Your favor of recent date, containing the lith. prints of *P. serrulata* & *P. cretica*, is hand.

Please accept my thanks for same.

The reason why I wanted a specimen of the latter was because I had a specimen from Mr H. A. Green of Troy N. Y., labelled *P. cretica* which was identical with the *Pteris* which is plentiful on the brick walls of our cotton warehouses, and I was anxious to get a genuine spec<sup>imen</sup> to see if I had been correct in labelling my specimens.

The prints will answer my purpose as they give the difference very clearly, and one would have no excuse for misnaming after seeing them.

2

I send as many spores of the B. you want as I could get, when I went out to get them I found that nearly all of the plants had shed their spores and the stalk of the fertile frond had turned a whitish-yellow and were all laying down, and the sterile blade had also taken on a yellowish look showing that they were about through with business for season of 1904-5.

That is those plants which had sported a seed stalk were as above described, but those I found in sheltered or semi-sheltered situations and a few in exposed positions were still fresh and green, but not a single of the fresh looking ones had thrown up a fertile frond

I had gathered some for my own use, and a few for exchange and have selected a few of them which are as fully developed as

any I have seen, but while they are a fairly good average, I must confess that I have saved the best looking specimen of the lot for my own collection, and I don't think you will blame me for that.

I also send a lot of spores gathered last fall from the typical *B. obliquum* which I thought you might want for comparison with those from other sections.

Had you intimated that you <sup>would</sup> want the spores, I would have secured you a lot from all the different forms, including my famed (?) "*B. humaroides major*", which I think the most graceful of the lot, and also from *B. protalophoroides*, but I did the best for you I could and am sorry if I "left undone any thing I should have done" &c.

I am a little loathe to ask you if you ever rec'd two small photos some

time since, one a walking fern  
and the other one I think the  
pinnatifid spleenwort, but I expect  
that they were so small that you  
over looked them, so it don't matter,  
as the only reason I was anxious  
to settle the question was because  
I have some of the spores of the  
last mentioned one which I have  
sown with the ebony spleenwort <sup>and</sup>  
am anxiously awaiting results, for  
after a careful reading of the  
pamphlet by Miss Slosser, which  
you sent me, I am inclined to  
believe (from her description & the  
pictures of her hybrids) that the  
plant found at Havana Ala is  
a <sup>(both highly pinnate types)</sup> hybrid of *A. ebenum* & a  
pinnatifidum, & not of *A. ebenum*  
& *Comptosius rhizophyllus* as all  
the specimens from that station I  
have are much more deeply pinnate  
tipped than were those she raised.

I will be pleased to have any root which you can send me which will not cause inconvenience to get, nor too much expense for sending.

I have a bed in which I have nearly, if not quite all of our local ferns, and am enabled by having it, to study the different varieties, when I have not the time or opportunity to go into the woods. Should you want any more of the *P. serrulata*, either pressed or the roots I can easily send you some they are plentiful with us, and should there be any other plant you would like from our section, any of the allies, *Azalla* etc or *Sagittaria Mohrii* *Epidendrum corymbosum*, &c &c I will be glad to do what I can to supply them.

Hoping that this will not close our correspondence which

6.

I assure <sup>you</sup> has been both instructive  
and interesting to me, and as-  
suring you of my willing-ness  
to serve you in any way within  
my power I remain

Yours very truly  
W. E. Lukes

P.S.

The plants selected for you I failed to  
bring down town with me this morning, but  
they will follow in a day or so

Yrs. truly

W. E. Lukes

Mobile Ala

April 25 '85

Dear Dr. E. Stansport.

Dear Sir:

I made a long  
trip to the city to see it & to see  
some of the sights of interest. The  
cancer tongue or tongue pain, which  
has been the last week or ten  
days, had been in the city, and the  
time beginning to show signs of  
that both of the two also the  
same. For this reason that  
will be no more to be had for  
this season, if what I have sent  
you should have to pay for  
what you want I can, another  
piece, should nothing, unless  
you, rather for you are you  
want. I am sure that I did not  
have in time to receive a goodly  
quantity for you at this time  
I have taken the liberty of send-

can be sent a few roots of  
the three forms which I have  
been successful in finding in  
one section. could you be  
troubled in trying to supply some  
from the species I think to be  
these. This might save you the  
trouble or much as might be  
comparing them with those sent  
with me, what might differ  
being named under different  
climatic conditions, but should  
you not care to grow them or  
it seemed too inconvenient  
to do so, why, just pass them  
aside.

Should you conclude to plant the  
herbarium, I would suggest that you  
give them a rest, putting them &  
giving just enough water from  
time to time to keep them alive  
and bringing them out later, in  
a similar manner to that which



is supposed to grow with  
plants growing a forest of  
etc.

It grows up a small creek and  
the lake part of the river is in  
owing to the fact of water having  
left summer now is a marsh -  
that is the lake edge where the lake  
the water is low and the water  
is not in the lake and the water  
is not in the lake and the water  
is not in the lake and the water

about the flowers about a mile  
or so and of ponding *Glyptostem*  
*glyptostem*, that is about and he  
is mentioned in Dr Mohr's  
of the and I report that this  
is about its Southern limit  
and it has been also found  
by a friend of mine, that also  
was being mentioned by Dr Mohr -  
Hoping that these plants may

be of use to you, and holding  
myself in readiness to serve  
you in any way I can -

Respectfully

Very truly Yrs

H. E. Barker

Mobile Ala.

Apr 21/05

Mr Geo. E. Newport

Dear Sir:

In looking  
over my letter recently I came across  
this one from a gentleman living near  
Phila. and as it contains a reference  
to the prothalion of Patriarchus I thought  
perhaps it might be an item you  
could use, if so I think should be  
any doubt, it is so written that  
you could verify the statement.  
Please return as I like to keep for  
reference.

Should the specimen of Patriarchus  
sent you some time ago by Miss  
Laura T. Kimball of National City Cal-  
ifornia be anything new, let  
me know as I want to keep posted.

and the way her letter reads it  
leads me to think that perhaps  
it may be a new sp<sup>n</sup>

With kind regards

I remain

Yours very truly  
Wm. H. H. H.

Wobles Glen

April 26<sup>th</sup> 1880

Dear Mr. Chapman

Dear Sir,

I have a specimen of a plant which I am unable to locate, and if you are much trouble, I would be glad to have you tell me what it is, & where a fertile seed would be about the size of a pea.

The plant is about 4 or 5 in high, of a fascicular growth, and the young fronds have a reddish or brownish cast when first unrolling, similar to the young fronds of *Urtica pedata* and the fully developed fronds have a stiff, brittle feeling.

I have been <sup>un</sup>able to find what it is and would be obliged to you if you

will kindly send me its name.

But if it is very, and new, and  
 is hard to learn, will you please  
 to let me know it.

With kind regards I remain

Yours and truly

J. C. G. Jones

Mobile Ala  
May 25/05

Mr. Geo. E. Canenperk

Dear Sir:

I hope that  
this may find you feeling  
yourself again.

Will you kindly send me  
the address of A. S. Curtis,  
if you know it?

We delineate the Florida  
ferns in F.B. for April 1904

Also do you know address  
of C. F. Baker he is now  
in connection with Cal ferns  
in F.B.

I am still trying to make my  
collection more complete & I  
am after some of the So Fla va-  
rieties.

Yours truly

W. E. Hill

I Phila. Oct., 64-65  
Wm. H. C. Andrews.  
Dear Sir:

I hope are this  
reading, and that you must have suc-  
ceeded, because in some cases "in the way"  
and will be enjoying your accustomed  
hours.

I am still hammering away at  
my hobby, as I have opportunity to  
do so, and have had the pleasure  
of one or two letters from Prof Eaton  
of N. East. Mass.

I had the temerity to write to him  
"off hand", much the same as I  
did to you, in hopes I would re-  
ceive as kind treatment from him  
as I did from you, and in that I  
was not disappointed, for he like  
all true men of Science, are char-



stable and considerate of those who are trying in their humble way to gain an insight into some of Nature's mysteries.

I also find that he is not entirely in accord with Prof. Under, especially on the "Botrichia" question, and says that in the Botrichia, as in other lilies we are "over speered".

I was prompted writing him by finding out incidentally that he had spent some time in Scotland in recent years, and I was anxious to add some of the Gloridion forms to my collection of ferns.

He has promised to send me some spec's and no doubt in due time they will be received.

Being out on a tramp the other day I was reminded of you by

going to have a look at some plants of B which I had found early last Spring at the time I was collecting "Hibernation".

I found one or two plants of what I have called in writing your B "Gymnadenioides" I am sure using this term till I find its correct specific, "which the sterile & fertile heads of last fall were both withered and fallen to the ground, but which had a reddish line from, very much the size and curling of the "Hibernation" springing up's right where the old, withered sterile found entered the ground, but if it sprung from the root or from the old stem I did not examine, because I wanted to watch it and see if it carried through the Summer

men, and if a fertile spike would  
 orient its pollen and become an  
 at the same time the obliqueness  
 or similar form would spring  
 into life.

It interested me, for in all of  
 the books I have read on the sub-  
 ject said that the plants entirely  
 "disappear" by the beginning of  
 the season of Summer, & reappear  
 again the following July or Aug.

There are but two plants and  
 they are a few hds yds apart  
 and on the edge of the Swamp  
 under the shade & protected by  
 Yuccas and other shrubs.

I am on the "look out" to see if  
 I find any other similar plants,  
 to find out if this is merely an  
 accident or a design where the

in the same degree are present.  
 Still as to the possibility of it being  
 anything I think is all decided by  
 the data. I have taken care to take blots  
 of the seedling data, the  
 ones I have in the same  
 field and have blotted them in  
 my file. I hope to see if they are  
 not the same form induced by  
 their environment. I am giving  
 them plenty of moisture and ab-  
 stractions of time more I think and  
 I think from the new friends be-  
 ginning to show that they will  
 be the regular normal type.  
 Will make notes and if it was  
 worth while write you what I find.  
 I have also a Warden case in  
 which I am trying to raise some  
 "sproutings", I have the case covered.

with a dark rock, in the bottom  
 & have a water garden of my 80<sup>th</sup>  
 water, in which I have two tanks  
 which are made from lime and  
 sand, known here as "limestone"  
 tanks, these I have braced out &  
 filled with fresh sifted wood so it  
 each tank divided into two compart-  
 ments by a small sand stone, in  
 the first compartment I have species of  
*A. cheimura*, var. *serotina*, *A. pinetigida*,  
*A. angustilobum*, *Athyrium filix fem.*,  
*Campylisma rhizobryllus*, and my  
 plan is to see if the later will  
 grow along with others as well as  
 with the *A. cheimura*, but so far I can  
 get no prothallium to develop, there  
 are plenty of little round green globes  
 but that is all, the spores were  
 planted the first part of April

and I thought that by this  
time I would have plenty  
of material to write on, but  
none so far.

What do you suppose is  
the trouble?

Well I expect you will  
wish I had started long  
before this, so will bring  
this one here effusively to  
a close.

Hoping I have not wear-  
ied or bored you.

I remain

Very, truly,

P. H. C. Lukes

Mobile, Ala.

March 31<sup>st</sup>, '06

Mr. Geo. E. Davenport,

Dear Sir:

It has  
been many months since  
I have heard anything from <sup>you</sup>,  
and I have often thought  
of how you are getting along  
and if you were able to  
take up systematic work  
again.

I have been unable to  
do much myself, owing  
to sickness in my fam-  
ily, all last Fall & this  
Winter, but have suc-

ceeded in adding quite a number of new species of ferns to my collection.

I am inclosing in this a pamphlet written by Mr Maxon, and published this Spring from Washington.

I know that you are not in accord with this line of procedure, but thought if you did not have it, you might like to keep up with what was "going on".

You once spoke of having growing in your yard a Crested Dicksonia, procured



some where in Mass, "Blue Hill" I think it was.

Should you be able to locate it at this time of the year I would be very glad to have you send me a root or so of it, but if it is not convenient to do so, do not let it worry you for I should not like to give you any trouble in that way.

I thought I'd like to try it as a specimen plant, because it would be out of the ordinary, everything

1  
+

here is either the common  
Boston fern, or Pierson's  
fern.

Now my dear Sir!  
don't let this bother you  
and if not convenient don't  
bother to answer this, for  
I shall know if I don't  
get any answer that  
you are not able to  
respond to my request.  
Hoping that your health  
has improved since I  
last heard from you  
and assuring you of my  
sincere wishes for the  
entire recovery of your

5

Sight, and holding my-  
self ready to serve you  
in any way I can  
I remain

Yours sincerely  
Wm C. Dukes

X  
Mobile Ala  
May 19<sup>th</sup> 06

Mr Geo E. Danenport,  
Medford Mass.

Dear Sir:

Package crested *Dennstaedtia*  
recd in good condition, and I am very  
much obliged for same.

I am afraid you think I was rather  
persistent in the matter, but I thought  
the specimen was a pretty one and  
I was sure the plant would also  
prove attractive in the growing state.  
I potted it promptly, and hope to  
secure an attractive plant.

I hope you have fully recovered  
your health, and also that your  
eyesight has improved for I should  
hate to think of your being denied  
the pleasure of botanical research,  
as well as the public losing the  
benefit of your work.  
I have been of necessity obliged

to do less collecting, and am so  
placed now that I do not get  
into the woods as often as I  
used, or as frequently as I should  
like.

I was in hopes of meeting Mr  
Clute last winter when he was  
South attending the meeting at  
New Orleans, but the trains were  
so far off schedule time that he  
passed Mobile in the night time  
and consequently I missed him.  
Since writing you last I have made  
some very pleasant correspondents  
among the number Mrs Taylor of  
Thomasville Ga, and Dr R. J. Smith  
of Milpitas Cal, both of whom  
you doubtless know.

I find those who are fond of  
Nature-study, are always of a  
pleasant disposition and ready  
at all times to extend the

helping hand to struggling amateurs like myself.

During last winter I received from a correspondent specimens from France, England &c, and I have taken spores from many of the species and sown them in suitable places in the neighborhood of the City in hopes that some of them would become established and add to our flora.

I have also, lately set out several plants of both *Nephrolepis* and *Lycopodium japonicum* from a station near the City which is being opened up for settlement, and bids fair to destroy the station entirely.

This is the only place I know of either species being found about here, and is the one in which Mr McNeill is mentioned of having found them in a late pamphlet.

by Prof. Underwood on new ferns  
in U.S., which publication you  
have no doubt seen.

I am still "pegging" away on my  
endeavor to raise a hybrid from  
*Aspl. parvulum* + *A. pennatifidum* in  
a similar manner in which Miss  
J. raised hers from *A. cheucum* +  
*C. rhizophyllum*, don't know if I ever  
will succeed, as I find most dif-  
ficulty in dividing the prothallium.  
 Hoping you will let me know  
at any time should I be able  
to serve you and wishing for  
you a pleasant, profitable and  
healthy Summer  
I remain

Yours very truly  
W. C. Duker

Copy of Letter from Chas. T. Drury, F. L. S. to  
Waxen, Pres. S. F. Chaplin

"I have read with much interest Mr George E. Davenport's article on "Abnormal Forms and Hybridity in Ferns" and would ask to be permitted to point out that with reference to Mr E. F. Lowe's cross between Aspidium (Lastrea) fili-mas ~~var.~~ palea-ceum, known to fernists here as Lastrea pseudo-mas, and Aspidium abbreviatum, known here as Lastrea propinqua, there is absolutely no question of distinct genera, nor any connection between the latter and Cystopteris, or Polystichum except in a wide sense. The species Lastrea fili-mas has been subdivided into three — L. fili-mas, L. pseudoc-mas and L. propinqua. by the late Mr G. B. Wollaston, who pointed out sundry differences as regards deciduousness and other minor characters which certainly justify their classification as subspecies but no more. A cross consequently between them is less, not more, striking than one between Polystichum aculeatum and P. angulare; between which the subspecific difference is more marked. As for Cystopteris, or Polystichum, they are both absolutely outside the question. Both forms of Lastrea and Nephrodium pure and simple, if we prefer to adopt this nomenclature.



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To my mind, however, there is very little evidence  
of a cross having taken place at all. The result of  
the sowing appears to have been a crop of both kinds;  
and as both, moreover, are given to vary, and  
their characters are closely akin, even a plant  
intermediate between the two might well be a sport  
per se.

With the Polyotichum cross or hybrid no such  
doubt exists, as two distinct varieties were taken  
and the peculiar cruciate characters of one  
species appeared in resulting plants of the other  
species, accompanied by a considerable loss of fertility,  
few spores germinating.

With regard to Polypodium Schneiderii, considered  
by Prof. Bower as a good hybrid between P. aureum  
and P. vulgare var. elegantissimum, there is absolutely  
no room for doubt as to the alliance. P. aureum  
is a large growing species with broad pinnate  
glaucous fronds. P. v. elegantissimum is tripinnately  
cut into slender segments, but not constantly so,  
partially reverting here and there to the normal,  
sometimes entire fronds or only pinna or parts of  
pinnae doing so, so that one and the same frond  
may display the fine cutting, intermediate coarser  
cutting and quite normal segments.

P. Schneide is is leathery, gigantic, slightly  
glaucous P. v. elegantissimum, as large as P. aureum  
, with smaller but woolly rhizomes and partial  
reversions of precisely the same kind: large sori  
are produced freely, but the spores are all  
~~aborted~~ aborted and the fertility fallacious.

Scolopendrium vulgare x Asplenium beterach  
is also a true hybrid beyond doubt. The fronds  
in my possession are scaleless beterach fronds,  
somewhat confluent at ~~the~~ tips; the fructification  
of the upper half is purely asplenoid, in single  
lines; in the lower half these lines are in-  
faced pairs, i.e. Scolopendrium beyond any doubt  
at all.

The nomenclature of ferns is such a plough of  
despond that I hardly dare refer to Mr D. B. Gilbert's  
article in "On the Genera of Ferns"; A Study of the  
Tribe Aspidaceae" for fear of getting embogged.  
I cannot, however, help expressing my agreement  
with him as regards Polytaenium. To see these  
lumped together with such wholly different plants  
as Nephrodium and Cystopteris is vile some to  
every actual grower of ferns, and in this country  
no one, except the terribly conservative systematic

Botanists, will call them anything else but  
Polytrichums

11 Shaa Road, Acton, London, W.  
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